

but it does not exceed the length of the others by more than one-eighth of its length. The general colour is bluish-grey on the back, becoming whitish on the belly; the head is variegated with blotches of greenish and olive brown, the dorsal fins are of a clouded greyish tint, the spinous seeming to have the base red; the caudal fin is almost black, the anal blackish with a white margin and base, the ventrals bluish-grey with an indistinct whitish patch near the base. Length 26 inches.

I name this fine fish after the Assistant Inspector of Fisheries, Mr. Thomas Mulhall. His practised eye detected it at once in the Sydney Fish Market as something unusual, and he brought it to me. It now forms part of the collection of the Commissioners of Fisheries.

AMMOTRETIS ZONATUS, n. sp.

D. 75. A. 53. V. dext. 7, sin. 3. P. 11.

This species differs from *A. rostratus*, the only one of the genus hitherto observed, in many respects, the most evident being the general greyish-black colour, instead of the almost rufous-brown of the other, in having across the body a broad irregular indistinct zone of a whitish hue, in having the vertical fins higher, the tail rather longer, the lower eye more distinctly in advance of the other, and the maxillary flap smaller. The height is considerably more than half the length of the body excluding the caudal fin. Length 7 inches.

Hab. Port Jackson.

The type of this species also belongs to the Fisheries department.

DESCRIPTIONS OF SOME NEW QUEENSLAND FISHES.

BY CHARLES W. DE VIS, B.A.

FAM. BERYCIDÆ.

CLEIDOPUS, n. g.

Muzzle rounded, blunt, protruding. Cleft of the mouth oblique. Eye large. Teeth viliform on the jaws, palatines,

vomer, and tongue. Suborbital with a longitudinal ridge continued to the angle of preoperculum. Scales large, bony, keeled, forming a partial mail. Two dorsals, the first of partially webbed spines. Ventrals reduced to a spine and a few feeble rays, the spine articulated with a locking action. Eight branchiostegals. Four gills, a slit behind the fourth. Air bladder large. Pyloric cœca $2\frac{1}{2}$.

CLEIDOPUS GLORIA-MARIS.

D. 4. 1/11. A. 1/11. L. lat. 16 (from suprascapular) L. tr. 8 (from dorsal to last abdominal keel)—V. 1/4. P. 14.

Height half the length measured to the tips of the median caudal rays. Head one-third of the same. Orbit one-third of the head, snout one-fifth, second dorsal spine two-fifths, and ventral spine four-sevenths of same. Snout gibbous in front of the orbit with a subvertical profile. Intermaxillaries separated by a deep notch. Lower lip with a symphysial groove and a (scarlet) patch of soft skin on the anterior lateral angle. Nostrils contiguous, adjacent to orbit. Three spines on the abdominal keel. Caudal strongly emarginate. All the scales spinosely ctenoid and striated with a large median spinous keel. Bones of the head unarmed. Dorsal spines strong, obliquely divergent, with very low webs, second and third the longest, fourth longer than first. Spine of second dorsal and anal short, feeble. Second dorsal rounded, the rays shortening from the first which is the longest. Ventral spine very strong, rays short, feeble. Lateral line not distinguishable. Scales of hinder part of trunk white, with broad dark edges all round, many of them on the post-abdomen and caudal peduncle orange at the base. Fore parts more or less golden. Three short black diverging bands behind the orbit and a longer horizontal one below them. Lips, chin, and intermandibulary space jet black. Pupil black, iris golden rayed with a dark maltese cross. Operculum golden with a black oblique bar on the lower limb. An elongated subrhombic patch

of bright scarlet on the lower lip. The ventral spine is on protraction, fixed in position by a trigger-like articulation. The scales of the abdomen and thorax are pretty firmly compacted, those of the fore part of the back less so, while those of the hind parts are so loosely adjusted as to allow of more than usual freedom of propelling motion.

Loc. Brisbane River. Long. S". Type in Queensland Museum.

HOMALOGRYSTES LUCTUOSUS.

D. 12/14. A. 3/9.

Height three and a half times in the total length, head three and one-third, snout one-fourth; interorbital one-fourth, fourth dorsal spine $+ \frac{1}{4}$ of the head, One pair of upper canines, distant. Intermaxillary reaches beyond the orbit. Spinous dorsal rises beyond the angle of the operculum, opposite the anterior third of the pectoral, it is nearly as high as the soft dorsal which rises opposite the anal and ends beyond it. Dark brown, with a purple tinge. Abdomen and chest purplish-red. Soft dorsal, caudal, and anal edged with black. Two obscure light bars across the tail. A very few black spots occur on the fins and trunk.

Long 41". *Loc.* Brisbane. Type in Queensland Museum.

SCOLOPSIS SPECULARIS.

D. 10/8. A. 3/7.

Height two and two-thirds, head three and two-thirds in the length. Orbit one-third of head. Preorbital one-half of orbit. Eye covered by a thick protuberant transparent mucus. Preorbital spine moderate with one precedent denticle. Posterior limb and rounded angle of preoperculum strongly denticulated. Anal spines subequal in length and strength. First ray of pectoral slightly produced. Tail emarginate. Preoperculum not notched. Light brown—a conspicuous pearly line edged with black behind

the hinder half of the second dorsal—another, formed of markings on the bases of the scales, along the middle of the posterior half of the body.

Long 6". *Loc.* Queensland. Type in Queensland Museum.

PORICTHYS QUEENSLANDIE.

D. —/20. A. 14.

Head three and three-fourths in the total. A line of pores on each side of the abdomen from the throat to the tail—a line from the nape along the back—pores rather obscure, mostly with short skinny threads. Two or three pores under the eye. A curved line of short filiform appendages on the vertex and occiput, both jaws fringed with the same. Orbital tentacles long, broad, fringed. A group of small canines on each side of the vomer. Brown, lighter beneath. Head striated with dark brown. Throat and abdomen with ill-defined brown spots. Postabdomen with distinct, small, dark spots and two brown fasciæ—both spots and bands extending on to the anal.

Rather than propose a new genus I place this fish in *Porichthys* notwithstanding the multiplication of the vomerine canines. Beneath the skin may be felt a moderately strong dorsal spine, and on examination there are found two rudimentary anterior spines lying side by side. The fish appears to be a coupling link between *Batrachus* and *Porichthys*.

Lon 4½ to 6". *Loc.* Queensland. Type in Queensland Museum.

PLEURONECTES MORTONIENSIS.

Section with teeth conical, and lateral line strongly curved over pectoral.

D. 70. A. 51. Lat. 75.

Eyes on right side. Jaws and dentition equal. Teeth uniserial. Height twice, and head thrice and two-thirds in the length, without caudal. Depth of the curve of the lateral line equals

two-fifths of its width. Maxillary four-ninths of the head, Pectoral nearly two-thirds of same. Distance of dorsal from caudal less than half the depth of the peduncle. Scales moderate, ciliated. Rays of vertical fins and of caudal scaly. Profile of head deeply emarginate over the orbit. Interorbit very narrow, elevated, naked. Caudal cuneiform. Dorsal rises opposite front margin of upper eye. Eyes nearly in the same vertical. Reddish-grey marbled with darker grey. Three large light coloured black-edged spots above and below the lateral line—similar smaller spots on periphery of trunk. Verticals fins spotted.

Long $7\frac{1}{2}$ ". Loc. Moreton Bay. Type in Queensland Museum.

In development of the jaws and dentition, and size of the scales, this fish diverges considerably from typical forms of *Pleuronectes* to which however it belongs rather than to any other group known to me. In this genus therefore I leave it for the present.

PHYSICAL STRUCTURE AND GEOLOGY OF AUSTRALIA.

BY THE REV. J. E. TENISON-WOODS, F.G.S., F.L.S., &c.

The Physical Geography of Australia gives a key to its Geology. It is an immense table land, with a narrow tract of land sometimes intervening between the edge of this elevated area and the sea. The east side is the highest, averaging about 2,000 feet above the ocean. The west side is not more than 1,000 feet above the same. The north is a little higher. The south side is either level with the ocean, or abuts in cliffs upon the sea, ranging from 300 to 600 feet in height. The general character of all the seaward side of the table land is precipitous; but on the south-east angle of the continent the tabular form disappears, and there is a true cluster of mountains (the Australian Alps), whose highest elevation is a little over 7,000 feet. This group is near the sea (Bass' Straits), and then after an interval of about